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ABSTRACT

A new method is provided for creating an inductor on the surface of a silicon substrate. The invention provides overlying layers of oxide fins beneath a metal inductor. The oxide fins provide the stability support for the overlying metal inductor while also allowing horizontal air columns to simultaneously exist underneath the inductor. Overlying layers of air cavities that are spatially inserted between the created overlying layers of oxide fins can be created under the invention by repetitive application of the mask used. The presence of the air wells on the surface of the substrate significantly reduces parasitic capacitances and series resistance of the inductor associated with the substrate.